



Amendments to the Claims

The following Listing of Claims replaces all prior versions, and listings, of claims in this application.

Listing of Claims:

Claim 1 (original): A device, comprising:

a sleep recovery circuit operable to transition from a first signal detection mode to a second signal detection mode in response to detection of a first signal characteristic in an input signal, and to transition from the second signal detection mode to a third operational mode in response to detection in the input signal of a second signal characteristic different from the first signal characteristic.

Claim 2 (original): The device of claim 1, wherein power consumption by the sleep recovery circuit in the first signal detection mode is less than power consumption by the sleep recovery circuit in the second signal detection mode.

Claim 3 (original): The device of claim 2, wherein the third operational mode corresponds to a full-power mode of operating the device

Claim 4 (original): The device of claim 2, wherein the third operational mode corresponds to a third signal detection mode, and the sleep recovery circuit is operable to transition from the third signal detection mode to a fourth operational mode in response to detection in the input signal of a third signal characteristic different from the first and second signal characteristics.

Claim 5 (original): The device of claim 1, wherein the sleep recovery circuit comprises a first signal detector operable to detect the first signal characteristic in the input signal, and a second signal detector operable to detect the second signal characteristic in the input signal.

Claim 6 (original): The device of claim 5, wherein only one of the first and second signal detectors is enabled at a time.

Claim 7 (original): The device of claim 6, wherein the first signal detector is enabled and the second signal detector is disabled during the first signal detection mode.

Claim 8 (original): The device of claim 6, wherein the second signal detector is enabled and the first signal detector is disabled during the second signal detection mode.

Claim 9 (previously presented): The device of claim 5, wherein the first signal detector detects a direct current characteristic of the input signal.

Claim 10 (original): The device of claim 9, wherein the second signal detector detects an alternating current characteristic of the input signal.

Claim 11 (original): The device of claim 9, wherein the second signal detector detects at least one of a frequency characteristic of the input signal and a pulse-width characteristic of the input signal.

Claim 12 (original): The device of claim 1, wherein the sleep recovery circuit transmits output data consistent with a sleep mode of operating the device during the first and second signal detection modes.

Claim 13 (original): The device of claim 12, wherein the sleep recovery circuit transmits output data comprising a loss-of-signal output set to a true state during the first and second signal detection modes.

Claim 14 (original): The device of claim 12, wherein the sleep recovery circuit blocks transmission of output data corresponding to data of the input signal during the first and second signal detection modes.

Claim 15 (original): The device of claim 1, wherein the sleep recovery circuit transmits output data corresponding to data of the input signal during the third mode of operating the device.

Claim 16 (currently amended): The device of claim ~~16~~15, wherein the sleep recovery circuit transmits output data comprising a loss-of-signal output set to a false state during the third mode of operating the device.

Claim 17 (original): The device of claim 1, wherein the input signal is an optical signal.

Claim 18 (original): A method of operating a device, comprising:
detecting a first signal characteristic in an input signal;
transitioning from a first signal detection mode to a second signal detection mode in response to detection of the first signal characteristic in the input signal;
detecting in the input signal a second signal characteristic different from the first signal characteristic;
transitioning from the second signal detection mode to a third operational mode in response to detection of the second signal characteristic in the input signal.

Claim 19 (original): The method of claim 18, wherein the steps of detecting the first and second signal characteristics are performed during different respective non-overlapping periods.

Claim 20 (original): The method of claim 18, wherein the first signal characteristics is a direct current characteristic of the input signal, and the second signal characteristic is selected from the group consisting of: an alternating current characteristic of the input signal; a phase characteristic of the input signal; and a pulse-width characteristic of the input signal.